



## Summary

### Introduction

#### INTRODUCTION

This publication provides information about the Jobs in Australia microdata release from the Linked Employer-Employee Database (LEED). This includes details on how to use the Jobs in Australia TableBuilder product, conditions of use and quality of microdata.

#### ABOUT THE DATASET

Jobs in Australia provides statistics from the Linked Employer-Employee Dataset (LEED) to enable simultaneous analysis of met supply and demand in the Australian labour market. The LEED is a cross-sectional database, which uses administrative tax data to incorporate information from all employees and employers in Australia. This creates a highly detailed dataset to support analysis of employment and income statistics for micro-labour markets.

The LEED includes person and employer level information provided by the Australian Taxation Office (ATO) and the Registrar of the Australian Business Register (ABR).

1. Data is supplied under the *Taxation Administration Act 1953*, which requires that such data is only used for the purpose of administering the *Census and Statistics Act 1905*.
2. ABR data is supplied under *A New Tax System (Australian Business Number) Act 1999*, which requires that such data is only used for the purpose of carrying out functions of the ABS.
3. The LEED uses this data via the Business Longitudinal Analysis Data Environment (BLADE), which combines ABS Business Register data, business tax data and information from ABS surveys with data about the use of government programs.

Information is confidentialised to ensure privacy and secrecy of the data, in accordance with legislative requirements. Confidentiality features are detailed in the Using TableBuilder section.

Further details about the construction of the LEED and summary results are available in the publication Jobs in Australia (cat. no. 6160.0).

#### ABOUT THE MICRODATA

Microdata are the most detailed information available. The Jobs in Australia microdata provides new insights to describe the number and nature of filled jobs, the people who held them, and their employers throughout five consecutive years (2011-12 to 2015-16) across more than 2,200 different regions in Australia.

Jobs in Australia microdata is available in the TableBuilder product, an online tool for creating tables and graphs. For more information about using microdata in general, see Microdata Entry Page.

#### ACCESS TO MICRODATA

1. Register and apply for access to TableBuilder through How to Apply for Microdata.
2. Learn more About TableBuilder.
3. Use the Table Builder User Guide (cat. no. 1406.0.55.005).

For assistance please contact Microdata Access Strategies on 1300 135 070 or via [microdata.access@abs.gov.au](mailto:microdata.access@abs.gov.au).

#### FURTHER INFORMATION

This microdata publication also includes:

- A detailed list of Jobs in Australia data items, available in Downloads.
- The Quality Declaration in Explanatory Notes.
- Other related products in Related Information.

## **DATA AVAILABLE ON REQUEST**

Data items from the LEED, which are not included in the TableBuilder product, may be available on request to meet individual requirements. Data requests are subject to confidentiality and administrative data constraints.

To enquire about data requests complete the Information Consultancy Form, contact us on 1300 135 070 or via [client.services@abs.gov.au](mailto:client.services@abs.gov.au).

## **PRIVACY**

ABS Privacy Policy outlines how we handle any personal information.

# **Data Integration Methodology**

## **DATA INTEGRATION METHODOLOGY**

General information about Jobs in Australia and the Linked Employer-Employee Dataset (LEED), including summary results, are available in the publication Jobs in Australia (cat. no. 6160.0).

Detailed information about the dataset, including the data sources, scope and coverage, reference periods, data linkage processes and quality assurance are available in the Explanatory Notes. The glossary is provided in Explanatory Notes as a useful reference for LEED terminology.

Published Data Cubes, in Excel spreadsheet format, can be accessed from the Downloads page.

# **File Structure and Content**

## **FILE STRUCTURE AND CONTENT**

### **FILE STRUCTURE**

Jobs in Australia TableBuilder provides data in two main categories: Persons and Jobs.

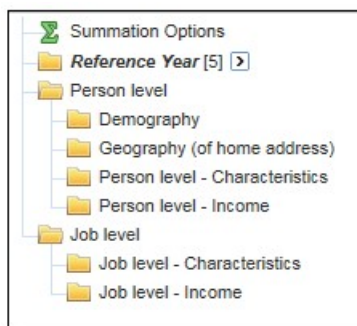
Person level data:

- Demographic information
- Geographic information
- Employee characteristics
- Income

Job level data:

- Job characteristics
- Employer characteristics
- Income

Data items are grouped under broad headings and subheadings, as shown in the image below:



These groups expand further for more specific and detailed analysis. A complete data items list is available in the Downloads tab.

## FILE CONTENT

### Reference Year

The Jobs in Australia TableBuilder contains a mandatory field called Reference year, which provides the reference periods by financial year for tabulation. The default table will display all reference years as columns and at least one year must be enabled to generate a table.

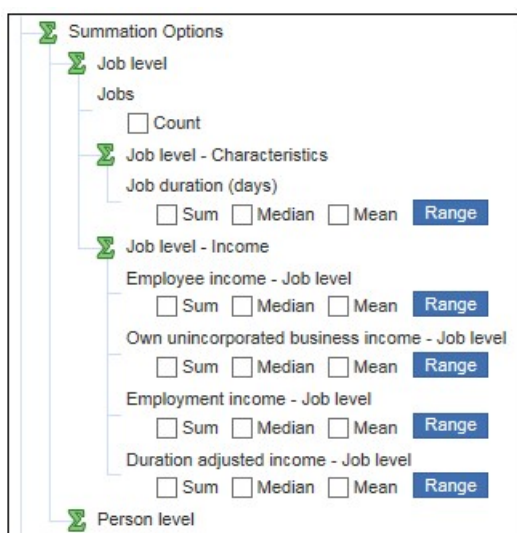
Reference Year 	2011-12	2012-13	2013-14	2014-15	2015-16
	-	-	-	-	-

### Summation Options

Summation options are built in to allow you to choose the type of information displayed in the table. These options include sum, mean and median for income based variables, measures of job duration, overlap between jobs, and age, as well as the basic summation options choosing between job and person counts.

The level relevant to each data item, persons or jobs, should be kept in mind when extracting and analysing data. The actual population count for each data item is equal to the total cumulative frequency minus the Not applicable category.

The expanded Job level summation options are pictured below:



### Geography

All geographic information in the LEED is based on a person's home address as reported on their Individual Tax Return form. Addresses are coded to the Australian Statistical Geography Standard, which details Statistical Areas, Local Government Areas, State Electoral Division and Commonwealth Electoral Divisions. Information is also

available for the Socio-Economic Indexes for Areas decile of a person's Statistical Area Level 2 (SA2) region. All geography references 2018 boundaries.

If a geography variable is missing, if possible it is imputed from the individual's most recent Pay As You Go (PAYG) payment summary. When filtering data into job level data, any geography associated with a job is the residence of the employee and not the location of the business.

## Industry

Industry is available at Broad and Fine levels. Broad industry division level provides 19 mutually exclusive divisions, which provide a broad overall picture of the economy. These divisions are further broken down into Fine industry subdivisions, groups and classes.

Industry information is either provided by the Australian Business Register or determined through the profiling process. An entity is classified to an industry using the Australian and New Zealand Standard Industrial Classification (cat. no. 1292.0).

## Occupation

Occupation of main job is classified by Occupation type and Skill level. Occupation classifications refer to the collection of jobs sufficiently similar in title and tasks, skill level and skill specialisation. A person's occupation is identified from the main job on their individual tax return, which is defined by the Australian and New Zealand Standard Classification of Occupations (cat. no. 1220.0).

## Missing

The Missing category represents the number of incomplete records for which the data items are not present. The underlying data of the LEED has a high rate of missing variables due to administrative tax data constraints and the linking and imputation processes.

## Not applicable

The Not applicable category generally represents the population excluded from a derived data item. For example, the maximum number of concurrent jobs is not applicable for people without a second job.

# Using TableBuilder

## USING TABLEBUILDER

General information and instructions for the TableBuilder product are available in the TableBuilder User Guide (cat. no. 1406.0.55.005).

Information specific to the Jobs in Australia TableBuilder is outlined below to assist in the understanding, interpretation and tabulation of the data. Further information is available in the publication Jobs in Australia (cat. no. 6160.0).

## CONFIDENTIALITY FEATURES

Confidentiality processes protect information that could potentially identify specific employees, employers or jobs. These processes are implemented to all TableBuilder data in accordance with the *Census and Statistics Act 1905*. All personal information is handled in accordance with the Australian Privacy Principles contained in the *Privacy Act 1988*.

The following processes used to confidentialise records:

1. De-identification
2. Perturbation
3. Suppression

## De-identification

All personal income tax statistics were provided in de-identified form with no home address or date of birth. Addresses were coded to the Australian Statistical Geography Standard and date of birth was converted to an age at 30 June of the reference year prior to data provision.

## Perturbation

Perturbation refers to the technique used to randomly adjust cell values, which minimises the risk of identifying individuals in aggregate statistics. Perturbation involves small random adjustments of statistics and is considered the best technique to protect identifiable statistics while maximising the range of releasable information. These adjustments have a negligible impact on the underlying pattern of the statistics.

After perturbation, a given published cell value will be consistent across all tables. However, adding up cell values to derive a total will not necessarily give the same result as published totals. The size of differences between summed cells and the relevant total will generally be very small.

Effects of perturbing data may result in components being larger than their totals, including determining proportions.

When perturbation occurs the following information messages will be displayed at the bottom of the table:

INFO: Cells in this table have been randomly adjusted to avoid the release of confidential data. Discrepancies may occur between sums of the component items and totals.  
INFO: Continuous variables in this table have been randomly adjusted to avoid the release of confidential data.

## Suppression

Suppression refers to the technique of removing low values within cells to preserve confidentiality. If tables generated within TableBuilder produce very low counts, all values within the table are suppressed to reduce the risk of identifying individuals.

When table suppression occurs a red exclamation mark will appear next to the table title and the following error messages will be displayed at the bottom of the table:

ERROR: The table has been suppressed as it is too sparse.  
ERROR: table cell values have been suppressed

## DATA ITEMS FOR CROSS-TABULATION

The Jobs in Australia TableBuilder contains person and job level data to produce employment and income statistics. When adding data items to a table, it is important to select the associated population to produce the correct tabulation. A table with multiple data items should all be applicable to the same population group.

Cross-tabulating data from the Person level with other data items from the same level will produce data about people. For example, cross-tabulating the geographic variable Statistical Area by the Broad industry of main job produces a table showing the number of people in each region by the industry division of their main job.

## IMPORTANT MICRODATA CONSIDERATIONS

### High job counts

The Jobs in Australia TableBuilder describes all job relationships accumulated over the course of a year. A person can have a number of jobs throughout the year, and some jobs will be held concurrently with others.

This means the job counts in this product are higher than estimates of filled jobs published in the quarterly Australian Labour Account, which provides a point-in-time, or stock measure. These statistics about jobs also differ from Labour Force Survey statistics, which estimate the number of people who held a job in each month.

### Low median income values

Median employment income per job is based on all filled jobs through the reference year. This includes jobs of short duration, such as jobs worked over the holiday period and seasonal agricultural jobs. The data also cannot differentiate part-time and full-time jobs. This means the median employment income per job in this product is quite low when compared to other employment income information.

### Duration adjusted income

The adjusted employee income per job is a supplementary view of income per job that accounts for the length of time an employee job was held. Duration adjusted income divides regular payments by the number of days the job

was held, and then multiplies this figure by the number of days in the reference year. Jobs held for 1 day are excluded, as are any jobs where duration of job can not be calculated.

### Clarification of 'Multiple Job Holder Status' and 'Job Number'

Multiple job holder status refers to people who held concurrent jobs (with an overlap of at least 31 days) at some point in the reference year. People with a job number count greater than one, held more than one job in the reference year, but not necessarily concurrently. For example, an individual who worked two different jobs in a financial year, but only held one job at a time, would have two jobs under job number but not have multiple job holder status.

### Field Exclusion Rules

Field Exclusion Rules were applied to the Jobs in Australia TableBuilder to protect identifiable information. These rules prevent the combination of specific variables, like accessing both geography and industry at fine levels in the same table. Where geography other than Australia is requested, users will only be able to select broad industry division for cross-classification and will not be able to select fine level industry (subdivision, group, or class).

The following variable combinations are prohibited:

- Industry at fine levels with Geography smaller than Australia
- Industry with Standard Institutional Sector Classification of Australia, Type of Legal Organisation or employment size.

If Field Exclusion Rules are breached the following information messages will be displayed at the top of the table:

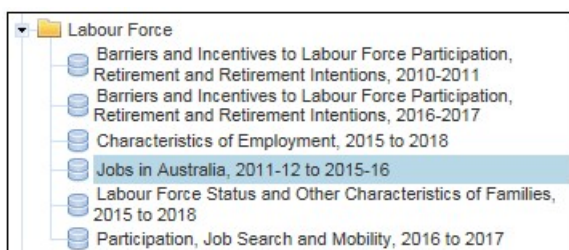


### Industry variables

Industry is divided into two variables, Broad industry and Fine industry, to allow the broadest range of analysis while protecting private information. These variables can not be combined with each other, as they present the same information, or with the other variables outline in Field Exclusion Rules.

## TABULATION GUIDANCE

Select the Jobs in Australia, 2011-12 to 2015-16 dataset from the Labour Force category:

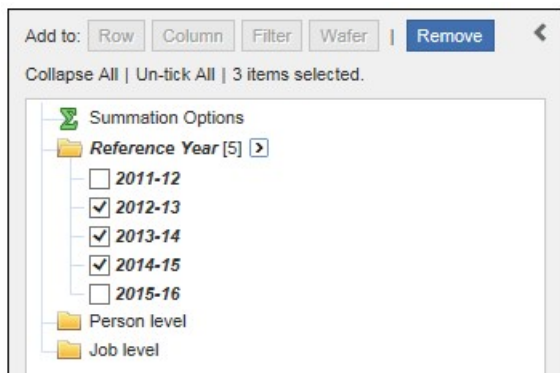


Predefined tables are available to demonstrate tabulation and can be modified as required.

Selecting a new table enables you to choose specific data items and build a customised table. Opening a new table will provide a blank table with all reference years selected as columns by default:

Reference Year 	2011-12	2012-13	2013-14	2014-15	2015-16
	-	-	-	-	-

Selected years can be removed using the Reference year variable:



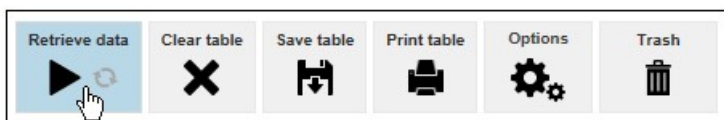
At least one year must be enabled to generate a table, for example:

Reference Year	2011-12	2015-16
	-	-

Next step is to further define the required table by applying variables to rows and columns. Filters can be applied to only display data for specific variables, while wafers will enable the data to be displayed in multiple layers of a table. Ensure the correct population is selected and data items are applicable to the same level, for example Person level Sex of person and Statistical area by state:

Reference Year	2011-12		2015-16	
Sex of person	Male	Female	Male	Female
Statistical Areas				
<u>New South Wales</u>	-	-	-	-
<u>Victoria</u>	-	-	-	-
<u>Queensland</u>	-	-	-	-
<u>South Australia</u>	-	-	-	-
<u>Western Australia</u>	-	-	-	-
<u>Tasmania</u>	-	-	-	-
<u>Northern Territory</u>	-	-	-	-
<u>Australian Capital Territory</u>	-	-	-	-
<u>Other Territories</u>	-	-	-	-
<u>Missing (Aus.)</u>	-	-	-	-
Total	-	-	-	-

Click 'Retrieve Data' to populated table:



Please note: Due to the size of this highly detailed dataset and depending on the complexity of selected tables, tabulation may take several minutes.

The TableBuilder User Guide (cat. no. 1406.0.55.005) provides detailed instructions on how to Build a table, Working with tables and all other aspects of using the TableBuilder product.

# Conditions of Use

## CONDITIONS OF USE

### USER RESPONSIBILITIES

The *Census and Statistics Act 1905* includes a legislative guarantee to respondents that their confidentiality will be protected. This is fundamental to the trust the Australian public has in the ABS, and that trust is in turn fundamental to the excellent quality of ABS information. Without that trust, survey respondents may be less forthcoming or truthful in answering our questionnaires. For more information, see 'Avoiding inadvertent disclosure' and 'Microdata' on our web page [How the ABS keeps your information confidential](#).

The release of microdata must satisfy the ABS legislative obligation to release information in a manner that is not likely to enable the identification of a particular person or organisation. Therefore, in accordance with the *Census and Statistics Act 1905*, a confidentiality process is applied to the data in TableBuilder to avoid releasing information that may lead to the identification of individuals, families, households, dwellings or businesses.

Prior to being granted access to TableBuilder, users must agree to the following ABS Terms and Conditions of TableBuilder Access.

The TableBuilder and DataPacks Help and FAQs page has additional information on the following:

- Registration and access
- Pricing and Subscriptions
- Responsibilities when using TableBuilder
- Problems and error messages

### CONDITIONS OF SALE

All ABS products and services are provided subject to the ABS Conditions of Sale. Any queries relating to these Conditions of Sale should be emailed to [intermediary.management@abs.gov.au](mailto:intermediary.management@abs.gov.au).

### PRICE

Microdata access is priced according to the ABS Pricing Policy and Commonwealth Cost Recovery Guidelines. For details refer to ABS Pricing Policy on the ABS website. For microdata prices refer to the Microdata prices web page.

### AUSTRALIAN UNIVERSITIES

The ABS/Universities Australia Agreement provides participating universities with access to a range of ABS products and services. This includes access to microdata. For further information, university clients should refer to the ABS/Universities Australia Agreement web page.

### CITATIONS

Information or data from the Australian Bureau of Statistics must be acknowledged responsibly whenever it is used. Citing, or referencing is important for several reasons, including acknowledging that one has used the ideas, words or data of others. Accurately citing sources used also allows others to find and use the original information. For information on how to cite ABS data refer to Help: [How to cite ABS Sources](#).

### FURTHER INFORMATION

The Microdata Entry Page contains links to microdata related information to assist users in understanding and accessing microdata. For further information users should email [microdata.access@abs.gov.au](mailto:microdata.access@abs.gov.au) or telephone 1300 135 070.

### PRIVACY

The ABS Privacy Policy outlines how the ABS handles any personal information that you provide to us.

## About this Release

This microdata publication provides information about the Jobs in Australia TableBuilder product, which is based on the Linked Employer-Employee Dataset (LEED). The dataset enables simultaneous analysis of met supply and demand in the Australian labour market.

The LEED is a cross-sectional database of employment and income statistics. Information from the LEED provides new insights to describe the number and nature of filled jobs, the people who held them, and their employers. Data is available for five consecutive years (2011-12 to 2015-16) across more than 2,200 different regions in Australia.

## Explanatory Notes

### Quality Declaration

#### QUALITY DECLARATION

#### INSTITUTIONAL ENVIRONMENT

Data in this publication are sourced from the Linked Employer-Employee Dataset (LEED).

The LEED includes tax data supplied by the Australian Tax Office (ATO) to the Australian Bureau of Statistics (ABS) under the *Taxation Administration Act 1953*, which requires that such data is only used for the purpose of administering the *Census and Statistics Act 1905*. Any discussion of data limitations or weaknesses is in the context of using the data for statistical purposes, and is not related to the ability of the data to support the ATO's core operational requirements.

The LEED also includes Australian Business Register (ABR) data supplied by the Registrar to the ABS under *A New Tax System (Australian Business Number) Act 1999*, which requires that such data is only used for the purpose of carrying out functions of the ABS. Any discussion of data limitations or weaknesses is in the context of using the data for statistical purposes, and is not related to the ability of the data to support the ABR's core operational requirements.

The LEED uses this data via the Business Longitudinal Analysis Data Environment (BLADE). Both the LEED and BLADE integrate Commonwealth data, and comply with the High Level Principles for Data Integration Involving Commonwealth Data for Statistical and Research Purposes.

Legislative requirements of information have been followed to ensure privacy and secrecy. In accordance with the *Census and Statistics Act 1905*, results have been confidentialised to ensure they are not likely to enable identification of a particular person or organisation.

All personal information is handled in accordance with the Australian Privacy Principles contained in the *Privacy Act 1988*.

For information on the institutional environment of the ABS, including the legislative obligations of the ABS, financing and governance arrangements, and mechanisms for scrutiny of ABS operations, please see ABS Institutional Environment.

#### RELEVANCE

This publication provides data on the number and nature of jobs, the people who hold them, and their employers. This can be used to understand regional labour markets, or to identify the impact of major changes in local communities. It also provides new insights into the number of jobs people hold, the duration of jobs, and the industries and employment income of concurrent jobs.

The scope of this data includes individuals who submitted an individual tax return to the ATO, individuals who had a 'pay as you go' (PAYG) payment summary issued by an employer, and employers who issued PAYG summaries.

Data conform as closely as possible to ABS Income Standards.

Data are presented according to the geography of the Australian Statistical Geography Standard (ASGS), covering Statistical Area Level 2 (SA2), Statistical Area Level 3 (SA3), Statistical Area Level 4 (SA4), Greater Capital City

Statistical Area (GCCSA), State/Territory, and Australia. Data are also available by Local Government Area, as well as both State and Commonwealth electoral divisions.

## **TIMELINESS**

The ABS receives tax data from the ATO approximately 16 months after the end of the financial year. This data then requires processing time to construct a BLADE and to produce a coherent and clean persons dataset. These factors contribute to the long delay between the end of the financial year and the publication of statistics from the LEED.

Because taxation data may be submitted to the ATO after the Income Tax Return cut-off date, it may not be available at the time the ATO provides data to the ABS and is only added in future provisions. As such, annual data in the LEED can become more complete over time. This is estimated to have a slightly greater impact on the self-employed population than on the larger employee and employer populations, and a negligible impact overall.

## **ACCURACY**

Jobs in Australia is subject to the following sources of error:

- Conceptual misalignment. The Australian tax system is purpose-built and complex, and in some cases it is difficult to determine how a particular income tax item should be used to describe income standards, and in some cases the item can be a partial conceptual match. While all care is taken, some income items are subject to this type of validity error. Coherence with other sources indicates that this has a low impact on aggregate series.
- Measurement error. This is likely to be present in both person and business information used. Most measurement error is unable to be determined or corrected; however, coherence with other similar statistics demonstrates that this has a low impact on aggregate series.
- Incomplete information. Over half of owner manager of unincorporated enterprise (OMUE) jobs are in businesses for which complete information is not available. Occupation is missing or unable to be determined for approximately 21% of employed persons. While no bias has been detected in missing occupation information, a very slight bias has been detected in relation to OMUEs with missing industry. Information appears to be missing for a slightly higher proportion of OMUEs in Agriculture relative to OMUEs in other industries. The ABS advises caution when interpreting data subject to high rates of missing information.

The data in this publication has been perturbed to ensure confidentiality. This has a negligible impact on accuracy.

Jobs in Australia has an open revisions policy.

## **COHERENCE**

There are differences between Jobs in Australia statistics and similar statistics produced by the ABS. When compared to other ABS sources, the number of jobs, the number of employed persons, and median employment income in this publication may differ due to:

- differences in the concepts, scope and methodology used in the LEED and those used in household and business surveys.
- the LEED containing a combination of administrative data collected for taxation purposes from both individuals and businesses, whereas other ABS data sources are compiled for the explicit purpose of producing statistics.
- unreported cash in hand payments, which are excluded from the LEED but may be included in household and business surveys.
- the LEED including information relating to the whole financial year, rather than a particular point in time.

The job counts in this publication differ from the filled job estimates in the Australian Labour Account (cat. no. 6150.0.55.003). Most significantly, the Labour Account is a stock measure at a point in time, while the LEED includes information relating to all job relationships throughout the entire financial year, including jobs of short duration. The Labour Force Survey data measures the number of people employed each month.

Some changes to personal income derivations have been made since the publication of similar statistics in Estimates of Personal Income for Small Areas (cat. no. 6524.0.55.002). This will result in minor differences between the two publications. Differences in underlying data treatments may also have a minor impact.

## **INTERPRETABILITY**

Job counts refer to all job relationships identified within the financial year and therefore don't reflect a single point-in-time measure. The explanatory notes and glossary for this publication provide further information that can help to interpret these statistics.

## **ACCESSIBILITY**

Jobs in Australia (cat. no. 6160.0) publication provides aggregate statistics from the Linked Employer-Employee Dataset (LEED).

Access to the Jobs in Australia microdata, through the TableBuilder product, is available to approved users:

1. To apply for access to microdata, read [How to Apply for Microdata](#).
2. For information about microdata products, see [Microdata web pages](#).
3. For information specific to TableBuilder, see [About TableBuilder](#).

A full list of available microdata products can be viewed via the [List of expected and available Microdata](#).

For more information, please contact [microdata.access@abs.gov.au](mailto:microdata.access@abs.gov.au) or phone 1300 135 070.